Technical Report 745

Analysis of Feedback in After Action Reviews

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The After Action Review (AAR) process was analyzed to evaluate the adherence to principles of effective feedback. Principles were identified through synthesis of the feedback literature and organized into three areas: feedback sources (participation), feedback content, and feedback message structures. Message content analysis was performed on six videotapes from the Army Training Battle Simulation System (ARTBASS) AARs. The results indicated that both effective and ineffective feedback behaviors occurred. The major ineffective procedure was the AAR leader's infrequent use of the questioning technique to stimulate involvement by the training audience. Other AAR feedback practices are discussed.

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FOREWORD

The Fort Leavenworth Field Unit of the Army Research Institute for the Behavioral and Social Sciences supports the Combined Arms Center with research and development on command group training and command staff operations. Among the wide range of projects, research is conducted to improve training of tactical command and control (C^2) doctrine and C^2 system operation. An integral part of command group training is the after action review (AAR) process. During the AAR, participants discuss performance to discover why events occurred as they did and identify areas where improvement is needed. This study identifies principles that should be followed for an effective feedback process and examines several AARs for adherence to these principles. This analysis provides the basis for guidelines on how command group training AARs should be conducted.

This research, conducted under ARI research task 1.3.3, Improved Methods for Command Group Training, was initiated through agreement with the Battle Simulation Directorate, U.S. Army Command and General Staff College, 4 April 1984, entitled Performance Assessment and Training Feedback Module for the Army Training Battle Simulation System (ARTBASS). The results of this research were briefed to the ARTBASS Team Chief of the Combined Arms Training Activity (CATA), September 1985, and to the Combined Arms Training Support Directorate, CATA, March 1987. The ARTBASS Team Chief concurred with the findings and recommendations on AARs, and they were incorporated into FC 101-2, How to Train with ARTBASS. The Training Support Directorate will use the results in the preparation of a video tape training aid on how to conduct AARs.

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Technical Director

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ANALYSIS OF FEEDBACK IN AFTER ACTION REVIEWS

EXECUTIVE SUMMARY

Requirement:

After action reviews (AARs) are a critical part of a command group training exercise. Through AARs, training performance is reviewed and feedback is provided to the training audience. Observation of numerous AARs has suggested that the effectiveness of procedures in the AARs varies greatly. The purpose of this research was to develop and implement a methodology for analyzing videotapes of AARs and to examine patterns of messages occurring in battalion command staff exercise AARs.

Procedure:

Relevant feedback issues were identified through a review of the literature. Twelve research questions that have a potential impact on the effectiveness of the AAR were specified. Data on feedback sources and participation were collected using a technique referred to as message content analysis. The content analysis was performed under two schemes: one to identify the topics discussed and the second to identify the feedback processes employed.

Findings:

The core group of feedback sources and the general ranking of participation in the AARs were Battalion/Task Force Commanders, ARTBASS leaders, and company commanders. The Opposing Force (OPFOR), S2, S3, S4, and Fire Support Officer (FSO) were moderate-level participants.

Topics discussed in the AARs were rank ordered with enemy characteristics discussed most frequently and planning discussed least frequently. The analysis indicated that the problem areas discussed most frequently were information and coordination. Reasons cited for the difficulty in information included the adequacy of information, ambiguity in messages, timeliness, critical reporting relationships, and variations in interpreting messages.

The coordination problem was subdivided further into five categories: excessive casualty rates, uncertainty about battle objectives, ammunition expended too quickly, difficulty in surveillance of enemy forces, and inadequate plans for resupply and refueling.

The AARs were conducted effectively in accordance with four known principles of good feedback procedures. First, the feedback was found to be oriented toward describing actual behavioral performance, rather than personal characteristics of the performers. Second, performance was linked to battle objectives at a reasonable rate. Next, discussion of future performance objectives

occurred with relatively reasonable frequency. Last, the use of both general and specific messages occurred at an effective rate.

Several feedback areas that did not meet reasonable levels of effectiveness were observed. Requests and submissions during the AAR for rationales concerning battle performance were too infrequent. When messages were attributing blame, the messages were too abstract and were not as effective as possible. The major problem in the sample AARs was infrequent use of the questioning technique by the AAR leader.

Utilization of Findings:

The content analysis methodology proved to be workable and produced information results on AARs. The topic categories identified have potential application to command group training exercises as a source from which to derive training objectives and as discussion items in the AARs. The results of the feedback process analysis characterized the effectiveness of AAR feedback and indicated several areas where feedback was employed ineffectively. Examples derived of effective and ineffective feedback have been incorporated into a guidelines document for conducting AARs (refer to Kaplan & Fallesen, 1986, and Appendix B).

ANALYSIS OF FEEDBACK IN AFTER ACTION REVIEWS

CONTENTS

LIST OF TABLES

CONTENTS (Continued)

LIST OF FIGURES

ANALYSIS OF FEEDBACK IN AFTER ACTION REVIEWS

INTRODUCTION

Performance feedback should be provided to a command staff undergoing training to engender a conducive learning environment. One means of providing feedback is through a process referred to as the after action review (AAR). In the AAR, performance is reviewed in relation to stated training objectives. Training participants are led through a discussion which reviews actions taken, explores the rationale for those actions, recognizes problems, and identifies potential corrective actions (Kaplan and Fallesen, 1986). The National Training Center (NTC) and the Army Training Battle Simulation System (ARTBASS) have adopted the practice of AARs as an integral part of their training program.

The AAR is in marked contrast to the critique method of feedback which is often used in military training. The AAR method aims to create a situation where participants are active and interactive rather than passive as they are in the critique method. Research has consistently shown that active participation in a learning activity greatly increases the amount learned and retained, and that involvement can reduce one's resistance to recognizing one's own mistakes.

There are a number of other well-established feedback principles that affect the conduct of the AAR. The purpose of this report is to clearly identify issues which might affect the adequacy of the AAR and to assess the extent to which the principles were followed in selected exercises.

A Perspective on Feedback

No concept is more basic to theories of human communication and learning than feedback. Feedback, as described by Wiener (1948) in the discipline of cybernetics, is a loop by which information about actual behavioral performance is used to correct and guide future behavior toward some predetermined goal. Originally the application was to machines where communication forms were relatively simple and corrective "learning" relatively constrained, but behavioral scientists were quick to see the application of such a corrective guidance mechanism in human communication and learning contexts.

Most investigators characterize feedback as a process involving four key elements. a feedback source, a message with certain characteristics, a feedback recipient, and feedback information patterns such as frequency and timing. Feedback involves coordinated activity between the source and recipient whereby informational patterns are created involving messages containing different types of information about past behavioral performance, the consequences of that performance, the future goal or objective to be met, and/or a continuation or correction of action in order to meet a future goal or objective. This description of the feedback process is consistent with Wiener's general description of feedback loops and with his uses, or functions, of feedback.

Organizational communication researchers regard feedback as an important concept for several reasons. First, personal feedback is desired by most employees and has a high correlation with job satisfaction (Downs & Hazen, 1977; Spencer & Steers, 1981). Second, feedback is considered a most important variable in learning and performance (Cusella, 1980). Several studies have contrasted feedback conditions with no feedback conditions, and more effective performance is always associated with feedback (Pryer & Bass, 1959; Brockner, 1979; Larson & Skolnik, 1982). Finally, feeding information about performance back to individuals and to small and large groups is assumed to be a potentially powerful means to enhance organizational effectiveness, as most models of organizational effectiveness contain a feedback component.

Most researchers have emphasized the directive and motivational functions of feedback as their descriptions indicate feedback provides: (1) rewards, (2) uncertainty reduction, (3) error detection, (4) secondary reinforcement, (5) knowledge of results, (6) knowledge of performance, (7) information about self, (8) information about unit performance, and (9) motivation for correction. While specific uses of feedback may vary, current organizational communication research is directed toward examining the variables related to the most effective forms and uses of feedback as well as how these forms and uses of feedback enhance performance.

Overview of Current Research

The present study which is descriptive in nature was designed to examine feedback sources, feedback content, and feedback message structure which were employed in six AARs conducted during ARTBASS (Borrelli, 1984) training exercises. A content analytic schema was used in analyzing the content and function of the messages (Watzlawick, Beavin, and Jackson, 1967). Content analysis was employed as the methodology because it provides "the best descriptive means for a systematic search through messages" (Holsti, 1969).

The following research report is organized into four sections. The first section provides a brief review of the literature concerning feedback sources and feedback message characteristics as they directly relate to the objectives of this study and the basic principles of the after action review. In addition, basic research issues are highlighted. The methods and procedures used in analyzing the data are described in the second section. In the third section, the results are presented. Finally, the implications of the results are discussed and recommendations are made.

IDENTIFICATION OF FEEDBACK ISSUES

Feedback Sources

Three general types of feedback sources have been identified in the feedback literature. The individual or self is an important feedback source as research demonstrates that individual job performance begins to improve before a supervisor gives feedback. Some researchers speculate that gaining experience and expertise on the job allows an individual to monitor his/her own performance (Ilgen, Fisher, & Taylor, 1979; Greller, 1980). Observers such as supervisors, peers or subordinates also constitute a feedback source. A final type of feedback is task-inherent feedback. Task-inherent feedback refers to human-machine interacting systems, e.g., computers, where in a visual tracking task, the machine makes it "apparent immediately when the individual is not on target." (Ilgen, et al., 1979; p. 350). To date, no single study has investigated these general types of sources simultaneously; therefore, conclusive comparisons among them are not possible.

Although early research tended to focus on one general source of feedback, current research appears to be directed toward comparisons between observer-provided and self-generated feedback on job performance. Research on this issue seems to take two directions: studies on perceptions of source importance, and studies on self-generated versus supervisor-generated feedback and goal setting on performance.

Perceptions of Importance

Research conducted on perceptions of feedback source importance reveals differences between supervisors and employees. In a field descriptive study of a transit company, Greller (1980) reported that supervisors rated themselves as more important sources of feedback than did the employees. Additionally, supervisors rated co-worker or peer-generated feedback and individual or self-generated feedback as less important sources of feedback than did the employees. Greller's results suggest that supervisors over estimate the importance of their own feedback to employees and often fail to recognize the importance employees place on other sources of feedback. Other organizational simulation studies (DeNisi, Randolph, & Blencoe, 1982; Kanfer, Karoly, & Newman, 1974) provide general support for Greller's discovery that employees perceive other sources of feedback as important as, and in some cases more important than, supervisor generated feedback.

Self-Generated vs. Superior-Generated Feedback

Research examining the effects of self-generated versus supervisor-generated feedback and goal setting on performance has produced interesting results. In one quasi-experimental field study involving blue collar union employees, Kim and Hamner (1976) concluded from their results that when management sets the goals for employees, the source of feedback makes little difference in their objective performance, although goal setting and feedback are superior to goal setting alone. In a second quasi-experimental field study of civil, mechanical, industrial, and electrical engineers, Ivancevich and McMahon (1982)

reported that self-generated feedback was superior to supervisor-generated feedback in enhancing objective performance with employees who set their own goals. Although the generalizability of the specific findings from both studies to other organizations is unknown because of the limitations in their research designs, the results suggest that the effectiveness of self-generated versus supervisor-generated feedback on objective performance may vary between goal setting and non-goal setting employees.

Research, examining multiple sources of feedback simultaneously, has been considered only recently and few studies have been reported. For practitioners, however, one conclusion seems quite reasonable: encouraging multiple sources for employee feedback to enhance job performance is preferable to relying on a single source. Since this practice is encouraged in the AAR (Scott & Fobes, 1982), the feedback sources were determined by examining who participated in the AARs and to what extent.

Feedback Content

Little research has been reported in the organizational communication literature on the content or topic levels of feedback. This lack of research is due to the fact that current theory recognizes that the contents or topics of messages are context-dependent. In essence, the topics discussed by Army personnel in an AAR will be quite different from the topics discussed by department store personnel during a performance appraisal feedback session due to the different organizational contexts. Since communication researchers, like other social scientists, are interested in obtaining generalizable results from their research, analysis of the content levels of messages has received little attention.

Nevertheless, analysis of the content level of messages is important for the personnel involved in the AAR. In particular, topic analysis is the starting point for training diagnosis, i.e., the "heart of the AAR" (Scott and Fobes, 1982). Specifically, an AAR training diagnosis involves three steps on the part of the analyst: identifying what happened, identifying how it happened, and identifying why it happened. The first stage, identifying what happened, requires that the analysts identify important battle events. Second, in identifying how the important events occurred, the analysts must increase their understanding by gathering facts about actions preceding and following the important events. Finally, the analysts must create chains of events and make inferences concerning the causes and effects of the important battle events in order to determine why these events occurred. A topical analysis serves to identify those events and actions seen as important or as related to important battlefield events by the participants. Hence, this study examined what topics were discussed and which ones were identified as problem areas.

The type of information transmitted in the message is also related to feedback content. This study examined four aspects of the information in AAR feedback messages. They were whether the feedback pertains to actual performance or the recipient's personal characteristics; whether the feedback is diagnostic, examining rationales for performance; whether the feedback is related to

group/individual learning objectives or task goals; and whether the feedback addressed if corrective action was needed, and, if so, what it should be. Research on each aspect is reported as follows.

Performance vs. Personal Characteristics

Feedback should be directed toward behavior which the recipient can correct, rather than directed toward personal characteristics. This principle has become an education and communication truism (Applbaum, Bodaken, Sereno, & Anatol, 1979; Gordon, 1974). Jacobs, Jacobs, Feldman, and Cavior (1973) reported that negative feedback focused on behavioral performance was viewed by recipients as more credible than negative feedback centered on personal characteristics and was nearly as well received as positive feedback. This line of research was the basis for examining whether feedback in AARs described performance or personal characteristics.

Rationale. A second type of information that the feedback may convey concerns messages addressed toward determining participants' rationale for performance. Little previous research exists on this component. However, Pearce and Cronen (1980) have demonstrated that a persons' behavioral performance may be influenced by their perceptions of antecedent conditions, such as the amount and types of information they have, their level of information processing, and their anticipation of subsequent conditions. In addition, these researchers have found that in order to change, correct, or improve behavioral performance it is often necessary to find out why they did what they did.

Goals. A third information type is messages which reference task-relevant goals or objectives. Researchers examining the feedback process in organizational settings have studied feedback about actual performance and its relationship to task-goals or objectives. Several researchers have found that neither feedback about performance alone nor goal setting by itself motivates toward improved performance. However, feedback in combination with goals has a positive effect upon performance (Locke, Frederick, Cousins, & Bobko, 1983; Kim & Hamner, 1976). Similarly, Nemeroff and Cosentino (1979) conducted a field study that found goal setting combined with feedback directed toward behavioral performance to be superior to no feedback or just feedback alone, in affecting the subordinate's perceptions of appraisal success and their motivation to improve. Clearly, messages which reference goals in conjunction with messages which provide feedback about performance enhance the feedback process and improve subsequent performance.

Corrective Action. The final type of information in feedback involves whether a continuation or a correction in performance shown in the past is desired. Again, both the research and prescriptive literature in educational psychology and communication studies agree on the following guideline: once "effective" behavioral performance or "mistakes" in behavioral performance have been communicated, messages encouraging a continuation of past effective performance or presenting alternative courses of action to correct "mistakes" are more effective in enhancing future performance than when such information is not part of the feedback process (Gordon, 1974; Applbaum et al., 1979).

Message Structures

Messages may contain information concerning the dimensions of form, level, and valence, in addition to those referencing basic components of the feedback process. Each of these dimensions can influence the effectiveness of the feedback process.

Form

Sources may present feedback in the form of a lecture or may invite recipients to participate more actively in the process or they may combine these two basic forms. Feedback messages in a lecture format can be described as an extended sequence of "comments". Conversely, feedback messages in a recipient participation format can be described as consisting of alternative "question" and "comment" sequences. Educational research has shown consistently that in a learning context, recipient participation in the feedback process: decreases resistance to information, increases motivation, and allows for an indepth exploration of issues being discussed. The questioning technique is the recommended format of the AAR, so the extent to which this format is actually applied was addressed.

Abstraction

A second dimension of feedback messages is the level of abstraction as a result of word selection. Research consistently reveals that, in general, feedback messages which contain specific information (e.g., descriptions of specific behaviors) are more meaningful and useful to recipients than messages which contain abstract information (Applbaum et al., 1979). In addition to the importance of giving specific information when referencing "past behavioral performance" and "future behavioral performance," subjects assigned specific goals have out-performed subjects assigned abstract goals while working on the same task (Dosset, Latham, & Mitchell, 1979; Tolchinsky & King, 1980).

Although research supports the contention that specific messages are preferable to abstract messages during feedback, these studies have classified messages as either "all abstract" or "all specific" within limited organizational contexts. General semanticists have referred disparingly to messages which are either all abstract or all specific as the problem of "dead level abstraction" (Condon, 1975), and suggest that communicators should use specific messages to help explain abstract messages which reflect general principles. A high preponderance of abstract messages may indicate that recipients had some difficulty in finding some aspects of the feedback process meaningful and useful. Conversely, a high preponderance of specific behaviorally-oriented messages may constrain recipients learning about generally applicable principles. In this research the extent of abstract and specific messages was examined.

Valence

A final dimension of the feedback message structure is valence. Valence refers to whether the feedback was positive, negative, mixed, or neutral. The valence dimension commonly is limited to the first two categories, regardless

of the degree of positivism or negativity conveyed in the message. While this is a weakness of the reported research, several tentative conclusions are possible.

Nadler (1979) indicated that feedback's evaluative content is an important factor in its effects and positive feedback content initiates change in persons' perceived competence on a task and increases the level of intrinsic motivation (Cusella, in press). In addition to motivation, Nadler relates positive feedback content to changes in group interaction and personal attributions. Nadler argues that negative feedback: promotes defensive feelings, raises aspirations less than positive feedback, leads to attributions concerning external causes on the part of the recipient, and leads to more distortions by the recipient.

Pointing out that feedback arouses strong emotions, Jacobs, Jacobs, Feldman, and Cavior (1973) characterized feedback as more than an objective transfer of information. They found that positive feedback is generally rated by its recipients as more credible than negative feedback. They suggest that in order for negative feedback to be well received, it should be maximally informative and minimally evaluative. Furthermore, different types of people handle negative feedback differently. There is some evidence that people who have confidence and the need for achievement may seek negative feedback to increase performance whereas people with less esteem and need for achievement may be defeated by negative evaluation (McFarlin & Blascovich, 1981). In an experiment with psychology students, DeNisi, Randolph, and Blencoe (1982) reported that variations in positive versus negative evaluations made a difference in students' reactions. The researchers concluded that actual performance is facilitated best by a mixture of positive and negative feedback evaluation.

A very special type of positively valenced feedback that has been explored is the influence of praise. Kim and Hamner (1976) report that it has affected performance positively. Conducting a field study in three organizations, Alexander and Camden (1980), found that praise has an important effect on superior-subordinate relations and that it correlates significantly with job satisfaction. They described the use of evaluative as opposed to descriptive praise as a major barrier to effective feedback.

In general, positively and neutrally (descriptive only) valenced messages are more favorably received than are negatively valenced messages. However, positively and negatively valenced messages related to specific behavior appear to be more effective than similarly valenced messages left abstract. This study examined the occurrence of positive, negative, mixed, and neutral valence messages.

RESEARCH METHODS

The research method employed in this study was content analysis. Content analysis is defined as a technique for making inferences by objectively and systematically identifying specified characteristics of messages (Holsti, 1969). As a research method, content analysis must meet three criteria: generality, objectivity, and consistency of system.

First, generality means that the content analytic scheme must be derived from theory and that the findings must have theoretical relevance. The content analysis scheme developed and used for this study was based on a model of the feedback process constructed by Downs, Johnson, and Barge (1984) in a recent review of the feedback literature. The results of this study were interpreted on the basis of standards for feedback effectiveness revealed in that literature.

Second, objectivity, stipulates that each step in the research process must be carried out on the basis of explicitly formulated rules and procedures. Included are rules for defining the coding unit, identifying and defining categories, and distinguishing among categories. Rules used in this research are defined in the operational definitions employed in the coding scheme in Appendix A.

Third, consistency of system refers to the inclusion and exclusion of data or categories according to consistently applied rules. No data from the feedback sessions were excluded from the overall analysis.

Coding Procedures

Basic Message Unit

The basic message coding unit was the individual utterance. These were defined operationally as any segment of uninterrupted verbal discourse punctuated at the beginning and end by a pause or verbal breach. For example, "(pause) S2 did you know what the S3 was doing? (pause)" would be coded as one utterance. Similarly, "(pause) I reported this (pause) as quickly as I could (pause)" was coded as two utterances because of the break in the middle of the sentence. Each utterance was coded in the 96 categorical choices of the feedback message process analysis (see Appendix A) in the following way. First, each utterance was assigned to one of the four feedback component categories: Reference to Battle Performance, Reference to Rationale for Performance, Reference to Battle Objectives, or Reference to Future Performance. Second, if the utterance was coded as Reference to Battle Performance, it was further assigned to either Reference to Behavioral Performance or Reference to Personal Characteristics. Similarly, if the utterance was coded as Reference to Battle Objectives, it was further assigned to either Reference to Individual Battle Objectives or Reference to Relational Battle Objectives subcategories. Third, utterances were further coded as to their Form (question or comment), then coded as to their Level of Specificity (abstract or specific), and finally coded as to their

Valence (positive, neutral, negative, or mixed). In addition to the coding of all feedback message data, the researchers identified the source of each feedback message when that source was identifiable.

For example, an utterance such as, "At 1100 hours we first saw the enemy approaching from the east down Highway 24," was coded as:

1. Reference to Battle Performance (Feedback Component)
2. Reference to Behavioral Performance (Feedback Component-Behavioral vs. Personal Characteristics)
3. Comment (Form)
4. Specific (Level of Specificity)
5. Neutral (Valence)

The utterance clearly references a Battle Performance, an act of observing the enemy; references a Behavioral Performance, we observed the enemy; is in the form of a Comment as opposed to a Question; is Specific with reference to time (1100 hours) and place (east down Highway 24); and is Neutrally valenced since the message describes what took place and does not attribute praise or blame to anyone.

An initial application of the coding scheme to the After Action Review videotapes revealed that not all utterances could be assigned to a category. Two additional categories were developed. Real Time was used to code any utterance which referred to the organizational format and operation of the current after action review, and did not refer to the battle simulation exercise. For example, "Where is the S2 sitting? Are you here S2?" Garble was used to code Any utterance which was aurally unintelligable to the three data coders. With the inclusion of these two categories, all oral speech contained in the AAR videotapes was assigned to an appropriate category.

Reliability Check

Three coders from the Communication Research Center at the University of Kansas were trained for a period of one month in the use of "Feedback Message Process Analysis." At the end of the training period, a sequence of 50 utterances from one of the recorded AAR sessions was randomly selected to test reliability among the coders in assigned data to categories. Reliabilities were calculated using Krippendorf's (1980) agreement coefficient for nominal level data. Intercoder reliability on a random sample of a sequence of 50 utterances was .89.

Analysis

Once inter-coder reliability was established, the coders analyzed videotapes of the AARs of five battalion command groups. The five video-tapes documented six AARs including the third day AAR of each of the five battalions undergoing training, plus one second-day AAR for the first battalion.

Source and message data were compiled and analyzed by their frequency of occurrence and by the proportion of their occurrence relative to the total number of utterances coded for each AAR.

RESULTS AND DISCUSSION

A total of 5,781 utterance were coded. Coded utterances involved 408.36 minutes of video-taped material (see Table 1). The mean time length of the AAR's was 68.06 minutes and the mean number of utterances was 963.5. Real time messages made up 18% of the total utterances, and garbled messages made up 3% of the total.

Table 1

Total Number and Length of Utterances for each Battalion

Battalion	Utterances	Duration (Minutes: Seconds	Utterances Per Minute
1.1	1,444	85:00	16.99
1.2	927	70:00	13.24
2	1,218	71:55	17.02
3	769	53.55	14.36
4	634	72:29	8.77
5	789	55:17	14.30
Total	5,781	408.36	
Mean	936.5	68.06	14.11

Feedback Sources

The total number of persons actively participating in the AARs varied from 8 to 17 across the battalions. The core group of participants which emerged across all AARs included the Battalion/Task Force Commander, ARTBASS leader, and Company Commanders (see Table 2). The opposing force (OPFOR), S2, S3, S4, fire support officer (FSO), and a single brigade commander were moderate level participants Another group of 12 participants did not make frequent utterances.

Feedback Contents

Topics Discussed in AARs

An analysis of the AAR videotapes revealed that forty-two identifiable topics in six general categories were discussed (see Table 3). The categories were troop deployment and terrain, enemy characteristics, coordination, information fire support, and planning. Only five topics arose in all of the AARs. They were unit locations, type of terrain, enemy troop deployment and movement, surveillance of enemy forces, and direct and indirect fire. There were more

Table 2.

Percentage of Utterances by Source

	Battalion						Overall
Source	1-1	1-2[a]	2	3	4	5	
Battalion/Task Force Commander	13.6	63.3	48.8	67.0	3.1	27.3	36.9
ARTBASS Leader	0.3	0.2	11.3	11.2	64.7	44.1	17.1
Company Commander	35.9	16.9	16.3	11.6		1.4	16.8
Opposing Force (OPFOR)	9.1		6.2	1.9	15.9	12.5	7.3
Brigade Commander	28.1						6.9
S3	3.7		1.5	1.5	9.2	9.3	3.7
S2	4.3	2.8	4.9	1.2	0.3	4.1	3.3
All Unidentified Sources		8.6	1.7	1.3	4.9	0.6	2.6
Fire Support Officer	2.4	1.0	4.0				1.6
S4	2.6	2.4	0.8	1.7	1.1		1.6
All Others[b]		4.8	4.5	2.6	0.8	0.7	2.2
Number of Non-Garbled Utterances	1396	913	1190	748	617	773	5637

a Battalion 1-2 indicates same battalion as 1-1, but on a second day.

b All others include S1, ALO, FIST, Platoon Leader, battalion personnel, brigade staff, trainers

Table 3

Topic Categories Discussed in After Action Reviews

	a	b
1. Troop deployment and terrain		
a. Units location	6	2
b. Type of terrain	6	1
c. Movement/mobility	3	2
d. Weather conditions	4	2
2. Enemy Characteristics		
a. Actual enemy strength	4	0
b. Enemy troop deployment & movement	6	1
c. Enemy casualties: troops and equipment	3	0
d. Enemy use of direct/ indirect fire	3	1
e. Enemy minefields	3	1
f. Enemy use of illumination	2	1
g. Enemy use of smoke	3	1
3. Coordination		
a. Mission objectives to be executed	4	0
b. Mission objectives accomplished	2	2
c. Responsibilities when superiors killed	2	1
d. Adequate personnel	1	1
e. Maximal use of personnel	2	1
f. Rationale given for decisions	3	0
g. Attack strategies	2	2
h. Surveillance of enemy forces	6	3
i. Troop & supplies losses	2	2
j. Resupply and refueling	4	3
k. Medical evacuation	1	1
l. Air strikes	3	1
m. Minefields/obstacles	2	0
4. Information		
a. Correct/incorrect information	1	1
b. Adequacy of information	4	4
c. Ambiguity in messages	4	4
d. Importance of information exchange	3	2
e. Critical reporting relationships	3	3
f. Authentication of reports	1	1
g. Timeliness of reporting	3	3
h. Platoon and company awareness of information available	1	0
i. Problems with variations in interpreting messages	2	2
j. Radio use	2	1
5. Fire support		
a. Use of illumination	1	1
b. Use of smoke	3	1
c. FASCAM	3	1
d. Direct/indirect fire	6	3
6. Planning		
a. Air support planning	2	0
b. Engineering support planning	2	1
c. Fire support planning	1	1
d. Use of all personnel in planning	2	1
e. Strength and weaknesses of operation order, generally	3	3
f. Problems with variations in interpretations of operation order	1	1
g. Need to develop simple SOPs for battle	1	1

[a] Number of battalions discussing the topic.
[b] Number of battalions discussing the topic as a problem.

problems associated with the coordination and information categories (17 and 23, respectively), than the other four categories (goodness of fit test: χ^2 = 22.97, df = 5, $p < .001$)

Problems with Information. Adequacy of information, a problem in four battalions, refers to a general problem of members failing to request or provide vital information to one another, especially as a battle intensified. Ambiguity in messages, also a problem in four battalions, concerns the general problem of sending messages too abstract to be meaningful to other battalion members. For example, one battalion commander stated that a platoon's leader's report of "having encountered a considerable enemy force" told him nothing about the size of the enemy force. Was it a company, a battalion, or a brigade? As a consequence of this message, the battalion commander noted that he was uncertain as to how he was to respond. Abstract messages made coordinating the battalion's forces more difficult.

Timeliness of reporting involved information arriving too late to prevent loss of personnel or to prepare troops for engaging the enemy. Critical reporting relationships centered on battalion personnel failing to inform other battalion personnel during the battle. For example, in one battalion, one company commander failed to inform the battalion commander and the TOC as the battle intensified.

Problems with variations in interpreting messages occurred in two AARs. They refer to two or more battalion members interpreting the same message differently. This is illustrated by the company commander who "misinterpreted" a code name and followed the wrong company into battle.

Problems with Coordination. Problems associated with mission objectives accomplished were of two types. First, members of two battalions experienced concern about the relatively high casualty rates they sustained in attaining their objectives. In particular, some battalion members wondered if the objectives could have been changed. Unfortunately, no one suggested ways the battalion could have obtained the objectives with fewer casualties. Second, members of two battalions stated that they were uncertain about the specific battle objectives they were to accomplish.

The problems related to troop and supply losses was essentially the same for each group; they expended their ammunition too quickly. As the ammunition supply diminished, so did firepower; and as a consequence of decreased firepower, casualty rates in the battalion increased. Surveillance of enemy forces often became a problem due to weather and smoke.

Resupply and refueling problems were related to the quick expenditure of ammunition. In essence, the resupplying and refueling of platoons and companies were operated on a "trickle down" concept based on an assumption that initial encounters by the enemy would be "contact squirmishes" rather than "full attacks." Unfortunately, the enemy employed full attack strategies which forced the platoons and companies to expend ammunition more quickly than anticipated. As a result, there was not enough time to move ammunition and fuel from storage sites behind the battle lines to the front.

Performance vs. Personal Characteristics

An examination of the four basic feedback components revealed that the members of all battalions talked most often about their behavioral performance (Friedman Rank Test: $\chi^2 = 15$, $df = 3$, $p < .005$), (see Table 4). The results of the content analysis revealed that in all six AARs the battalions were high in referring to actual performance rather than personal characteristics. Only in AARs 1-2 and 3 did messages referring to personal characteristics appear, and they occurred very infrequently (2.7% and 1.4% of total group "Battle Performance" utterances). Persons in the other four AARs dealt only with actual behavioral performance. The six AARs may be viewed as effective on this dimension.

Rationale

In reconstructing how an important event happened during the simulated battle, battalion personnel may serve as one rich source of information. In particular, they may be able to explain why they performed as they did during each significant battlefield event. Of the four feedback components, messages requesting and giving "Rationales for Battle Performance" occurred the fewest number of times during the AARs. This average may be reasonable since members' reasons for performance is only one source of information concerning how significant battle events occurred.

Messages providing "Rationales for Battle Performance" appeared to provide battalion commanders some understanding of the reasoning processes involved in the battle actions taken by their personnel. Battalion commanders used this information to illustrate and "reinforce", through praise, correct decision-making practices in various battle situations. Similarly, battalion commanders employed this information to "correct," by suggesting alternative options to poorly made decisions. Finally, battalion commanders often linked the "Rationales for Battle Performance" to the consequences experienced by a platoon, company, and the battalion.

Goals

Research has consistently demonstrated that messages which reference goals in conjunction with messages which reference actual behavioral performance enhance the feedback process and improve subsequent performance more than each type of message alone. In terms of the AARs, this category refers to the practice of linking actual behavioral performance to the consequences of that performance on whether or not battle objectives were attained.

The roughly 10% average for messages referencing "Battle Objectives" found in four of the six battalion AARs may be reasonable since the number of battle objectives may be limited and the activities of several personnel and echelons may relate to the same objective. The AAR guidebook indicates that linking actual behavioral performance to subsequent events and outcomes is important since it allows personnel to see the consequences of their actions.

Table 4.

Percentage of Feedback Component Utterances for Each AAR

Feedback Component	AAR						Overall
	1-1	1-2	2	3	4	5	
Performance	52.0	38.0	50.5	32.2	60.4	46.5	48.0
Rationale for Battle Performance	11.5	9.6	10.8	8.2	2.7	3.4	8.6
Battle Objectives	12.6	7.1	12.0	3.5	10.6	11.8	10.3
Reference to Future Performance	15.4	23.4	12.8	25.6	3.5	23.8	17.8
Number of Utterances	1444	927	1218	769	634	789	5781

Additionally, "Battle Objectives" may exist at various levels of the battalion's organization. Messages about "Battle Objectives" may link individual persons' performance to their "Individual Battle Objectives." Moreover, other messages about "Battle Objectives" may link the battle objectives of one individual or unit to other individuals or units. These are termed "Relational Battle Objectives."

The results of the content analysis found three different patterns among the battalion AARs. Two battalions had a relatively high amount of messages related to "Individual Battle Objectives" and relatively few messages related to "Relational Battle Objectives" (see Figure 1). Two battalions displayed a relatively high percentage of "Relational Battle Objectives" and a relatively low percentage of "Individual Battle Objectives" messages. The remaining two battalions had a moderately high amount of individual objectives and a medium amount of relational objectives.

Establishing an exact ratio of "Individual" to "Relational Battle Objectives" as an ideal mix is rather difficult. The learning process might not be fully developed when this ratio becomes extreme, as in AAR 2 where "Relational Battle Objectives" are seldom mentioned, or in AAR 5 where "Individual Battle Objectives" are almost never discussed.

Corrective Action

This feedback component is important in "reinforcing" and continuing desirable aspects of unit performance, and in trying to identify some course of action which might improve unit performance. Results of the content analysis indicate that "References to Future Performance" averaged 17% in frequency of occurrence of messages.

In five of the six battalion AAR sessions, "References to Future Performance" occurred with a relatively reasonable frequency. Various problems battalions encountered during the simulation exercise were relatively evenly distributed across all battalions. Only in one AAR did messages "reinforcing good performance" and "suggesting ways to improve performance" occur quite infrequently.

Message Structures

AAR Leader's Questions vs. Comments

The AAR manual states that the questioning technique is the preferred format since it "encourages personnel to participate actively in the AAR sessions." Since the questioning technique was designed for implementation by the AAR leaders, only their utterances were analyzed. An examination of the AAR sessions revealed that the questioning technique was rarely used by the AAR leaders. The only notable exception was the AAR leader in Battalion 2 who used questions in 41% of his utterances (see Table 4).

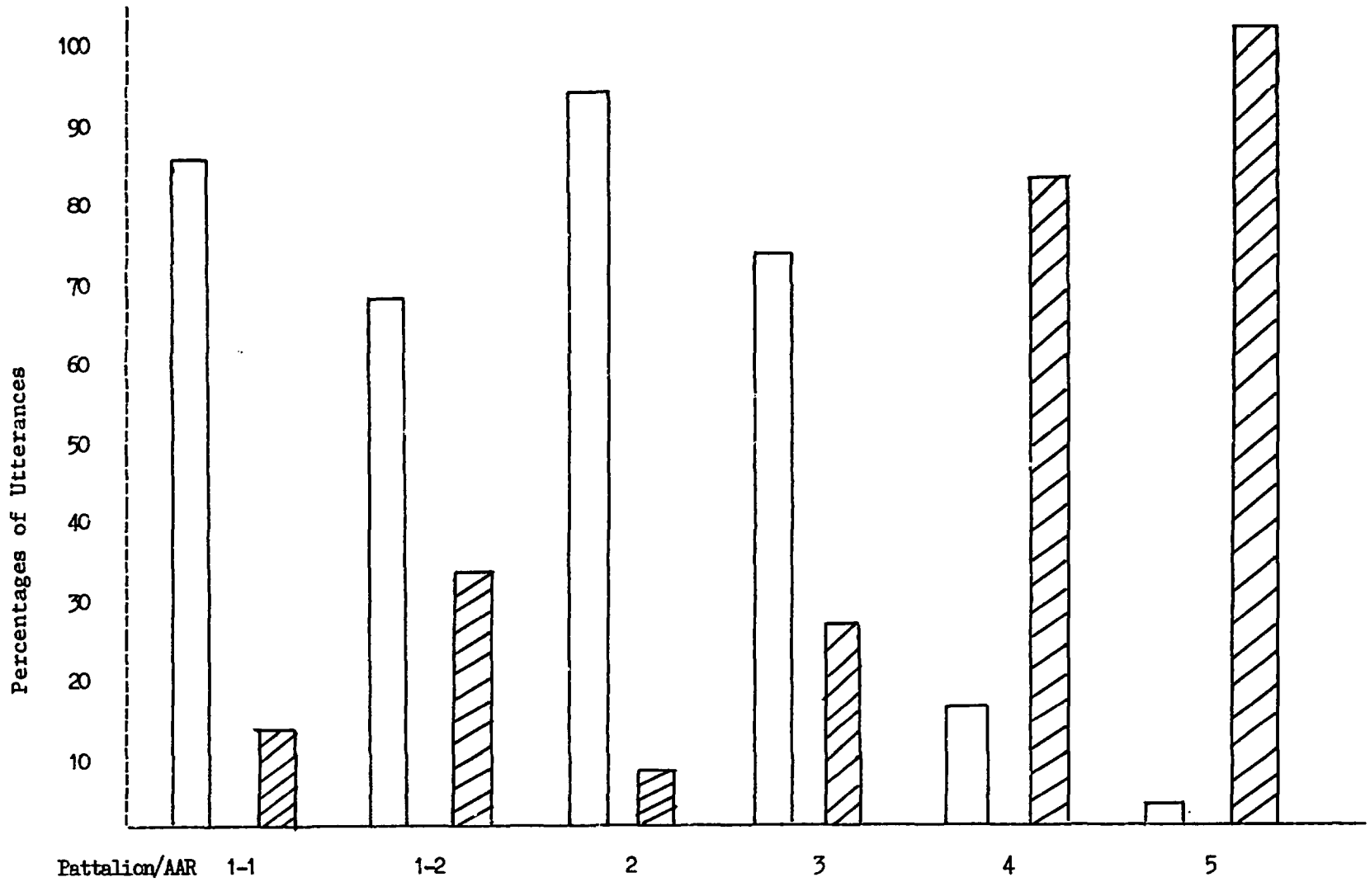

Figure 1. Percentage of Battle Objectives Utterances Coded as Individual or Relational (Cross-Hatched) for Each AAR.

In terms of the four basic feedback components, most of the questions raised by AAR leaders concerned "Battle Performance." In three AAR sessions, no questions were posed concerning "Rationales for Performance," "Battle Objectives," or "References to Future Performance." Consistently, the lowest ratio of questions to the comments occurred in "References to Future Performance." With the exception of AAR 1-1 and 2, the questioning technique was used to encourage personnel to describe their "Behavioral Battle Performance," but was seldom if ever used to encourage personnel involvement in the other feedback areas.

Abstract vs. Specific Feedback

Feedback research has supported consistently the finding that feedback messages containing specific information about "Behavioral Battle Performance," "Rationales for Performance," "Battle Objectives," and "References to Future Performance" are more meaningful and useful to recipients than messages which contain strictly abstract information, e.g., "You did a good job." "Your information was incomplete," "Do your best," etc. These findings do not mean that messages containing abstract information are necessarily bad, since they may refer to general principles to be applied in battle or serve as introductory and summary comments in the feedback process. Messages containing abstract information should be linked (either preceded by or followed by) to messages containing specific information which further explains the abstract information. A high preponderance of abstract messages might indicate that personnel lacked specific information on what they did that was "good" or "poor" and how they might improve. On the other hand, a high preponderance of specific messages might suggest that personnel were not given principles generalizable beyond the simulated battle experience.

The results of the content analysis of the six AAR sessions revealed that, in general, there was neither a high preponderance of abstract nor specific messages (average of 40% of messages were abstract). For individual AARs abstract messages ranged from 33% to 48% (see Table 5).

Examination of questions and comments related to the four basic feedback components as to their abstractness or specificity revealed three general patterns in the AAR session. First, questions posed in an abstract manner tended to generate abstract comments. Second, not asking questions tends to generate a higher number of abstract as opposed to specific comments. Finally, specifically stated questions prompted comments containing specific information.

Message Valence

The content analysis revealed that 2% of all utterances either explicitly attributed praise or blame to personnel. Of the 99 valenced messages, 85 were positive, while 14 were negative. Research has suggested that positively and negatively valenced messages related to specific behavioral references are more effective in enhancing performance than similarly valenced messages at an abstract level. Analysis of the valenced messages indicated that 89% were left abstract (88 out of 99), i.e., never related to specific behavior, rationales for performance, battle objectives, or future performance.

Table 5.

Percentages of Feedback Components Question/Comment Utterances for the AAR Leader of Each AAR

Feedback Component		AAR						Overall
		1-1	1-2	2	3	4	5	
Battle Performance	Question	7.6	2.9	22.0	4.4	3.5	3.8	10.0
	Comment	14.5	32.7	19.3	17.4	60.7	41.1	39.4
Rationale for Performance	Question	0.3	0.5	4.0	0.4	0.0	0.0	1.3
	Comment	1.0	9.3	3.6	8.8	2.0	2.9	6.3
Battle Objectives	Question	2.3	0.2	7.5	1.2	2.3	0.0	2.9
	Comment	5.5	6.0	1.4	2.4	1.0	3.6	4.2
References to Future Performance	Question	1.0	0.3	1.0	2.5	0.0	0.2	1.0
	Comment	47.0	21.8	26.0	33.1	4.5	29.2	34.8
Number of Utterances	Question	44	23	199	43	23	22	354
	Comment	265	406	288	309	[illegible]	424	1959

The majority of messages when praise or blame was attributed to personnel messages were left abstract and may not have been effec ively used. Since specific behavioral referents were seldom mentioned, battalion personnel may not have known exactly for what they were being "praised" or "blamed." A failure to link "praise" or "blame" information to specific "Behavioral Battle Performance," "Rationale for Performance," "Battle Objectives," and "References to Future Performance," during the AAR feedback sessions may lessen the effectiveness of these types of messages for "reinforcing" good performance and "correcting" poor performance.

SUMMARY AND CONCLUSIONS

Content analysis was employed in the study and provided a systematic method for describing and evaluating human communication feedback generated in six after action reviews (AARs.). These were videotaped when they occurred after ARTBASS battalion command staff training exercises. The content analysis was specifically tailored for this application and for examining the frequency of occurrence on several feedback issues. Feedback sources were examined to determine the extent of participation by all members of the AAR. Feedback content was analyzed both in terms of topics discussed and process components. Feedback message structures were analyzed to determine if good communication practices were used in the AARs.

Feedback Sources

The sources of feedback varied among the six AARs from 8 to 17 participants. The core group which generated 71% of the utterances were the Battalion/Task Force Commander, the ARTBASS leader, and the company commanders. The number of participants and their degree of participation was highly influenced by the individuals leading the AAR sessions as can be seen from contrasting two battalions. Of all six AAR sessions, the AAR leader of Battalion 2 asked the most questions of his personnel and had the highest number of participants. Conversely, the AAR leader of Battalion 4 was among the three AAR leaders who asked the fewest number of questions and had the lowest number of participants. Feedback should come from multiple sources as opposed to a single source. Participation in the AAR also leads to greater acceptance of evaluative feedback.

Feedback Content

The results of the content analytic scheme were used to identify and describe important qualities of the feedback in the six AAR sessions. Further, these results were evaluated in terms of four principles of effective feedback. Employing the four basic components of the feedback process is an important step toward an effective feedback session.

AAR discussion topics were classified into six general categories and 42 individual topics. Two categories, coordination and information usage, were disucssed as problem areas the most. There were ten topics of concern in the AARs concerning the coordination of forces. Of concern in information usage was the correctness of information and the ambiguity in messages.

When providing feedback about "Battle Performance," references concerning actual "Behavioral Battle Performance" are more effective than references containing inferences about the "Personal Characteristics" of personnel in determining "what happened." The results of the content analysis revealed that all battalions demonstrated the more effective choice.

When attempting to reconstruct how a critical event occurred during the battle exercise, one rich source of information is the battalion personnel themselves. Four of the six AAR sessions demonstrated an "adequate" number of messages concerning members' "Rationale for Battle Performance," while these messages seldom occurred in two of the AARs. The AAR leader for Battalion 2 requested and was given "Rationales for Battle Performance" (11% of the time) while the AAR leader for Battalion 4 never requested and was seldom given such information.

Feedback messages which link actual behavioral performance to "Battle Objectives" are more effective in improving performance than messages about performance or objectives alone. Four of the six battalion AAR sessions reflected a reasonable and effective use of this feedback component. The Battalion 4 AAR session was slightly higher than the average for this type of message, while personnel involved in the AAR of Battalion 3 seldom linked their actual behavioral performance to "Battle Objectives."

"Battle Objectives" exist at different levels of an organization. "Individual Battle Objectives" for individual personnel, platoons, etc., exist as well as "Relational Battle Objectives" at the battalion level. Three patterns of individual and relational objectives were observed. Messages which relate individual battle objectives to battalion objectives are more effective for enhancing performance than messages which center exclusively on one level or the other.

In attempting to "reinforce" good performance and to "improve" poor performance, messages which link past performance to "References to Future Performance" enhance the feedback process. References to future performance were not made frequently in only one of the AARs.

Feedback Message Structures

Although the relative presence or absence of messages concerning the basic components of feedback can affect future performance, other qualities in these messages can have an effect as well.

The AAR manual encourages AAR leaders to use the questioning technique during the sessions since questioning encourages more personnel to actively participate and subsequently improves training. The results revealed that the questioning technique was used by the AAR leaders only 15% of the time, although there was a large variation among them, ranging from 5% to 41%. The questioning technique should be used during the AAR to encourage participation and to draw out evaluative comments on performance.

A high preponderance of abstract as opposed to specific messages or vice-versa is less effective when discussing the basic feedback components than a more equivalent mix. Overall, the number of abstract and specific messages was nearly equal. Three general tendencies were observed: abstract questions generated abstract comments, abstract comments were more frequent when few questions were asked, and specifically stated questions led to specific responses.

Positively and neutrally valenced messages are viewed more favorably by personnel than negatively valenced messages. Only 2% of the messages were positive or negative. Overall, the six AAR sessions were effective in avoiding "blaming" persons for how the battalion performed. However, when praise or blame was attributed to performance, 81% of the messages were stated abstractly so that personnel may not have known specifically for what they were being "praised" or "blamed." In this sense, the use of "praise" or "blame" may not have been effective in the AARs examined in this study. When praise or blame is used the message must be specific enough to have an effective impact on future performance.

Final Note

This report has identified desired feedback characteristics and has described the adherence of selected AARs to the principles. Some battalions exhibited a more effective feedback presentation process than others. Only one problem emerged consistently across the six AAR sessions: the failure of the AAR leaders to implement the questioning technique.

Additional guidance for conducting effective AARs is available in several sources. Appendix B in this report provides the transcript of a videotape presentation on what makes an AAR effective. Scott & Fobes, (1982), and Kaplan & Fallesen (1986), provide step-by-step guidance on how to prepare for and conduct effective AARs.

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APPENDIX A

FEEDBACK MESSAGE PROCESS ANALYSIS AND CONTENT ANALYSIS CODING FORM

OPERATIONAL DEFINITIONS

The "Feedback Message Process Analysis" is an elaborate content analytic scheme constructed specifically to describe the feedback processes found in After Action Reviews.

I. Feedback Components

- A. Reference to Past Battle Performance
  - 1. Behavioral Performance
  - 2. Personal Characteristics
- B. Rationale for Performance
- C. Goals/Battle Objectives
  - 1. Individual Level
  - 2. Relational/Team Level
- D. Future Performance

II. Form

- A. Question
- B. Comment

III. Level of Specificity

- A. Abstract
- B. Specific References

IV. Valence

- A. Positive
- B. Negative
- C. Mixed
- D. Neutral

An operational definition for each of these is given below.

OPERATIONAL DEFINITIONS

I. Feedback Component Dimensions:

A. References to past performance were defined as Reference to Battle Performance. Based on the review of literature, two sub-categories were constructed: reference to behavioral performance and reference to performance based on personal characteristics.

(1) Reference to Behavioral Performance: Any utterance which described or attributed success or failure to an action based on the performance or non-performance of some behaviorally grounded action by any member(s) of the battalion during the simulation exercise. Example: "We spotted the enemy coming up Highway 24 and I reported his movement immediately to the S2."

(2) Reference to Performance Based on Personal Characteristics: Any utterance that attributed success or failure to action during the simulation based on: (a) ability level of group members, (b) knowledge level of group members, or (c) effort level of group members. Example: "The S2 is the smart guy; he knew what he was doing."

B. Reasons for past performance were operationalized as Rationale for Performance: Any utterance that provided or requested reasons and/or justification why certain behaviors were performed or not performed. Example: "We didn't take any casualties because we didn't receive any enemy fire, either directly or indirectly."

C. Goals were operationally defined as References to Battle Objectives. Again two sub-categories were constructed: references at an individual level and references at a relational level.

(1) References at an Individual Level: An utterance which referred to planned desired outcomes of a battle, whether contained in the operations order or modified due to battle conditions. These desired outcomes are for a single person, platoon, or company. Example: "Sir, my mission as leader of Alpha Company was to defend and hold battle position ten."

(2) References at a Relational Level: An utterance that referred to the planned desired outcomes of a larger, interrelated group; i.e., how platoon goals relate to company goals, how company goals relate to battalion goals, how battalion command members' goals relate to each other. Example: "As S2, I immediately sent the intelligence report about enemy movements to Charlie Company so that they could alter their approach in securing the bridge."

D. References to futur. performance were defined as References to Future Battle Performance: Any utterance which served to prescribe or suggest a continuation or correction in behaviors or activities which should occur in future battle situations. Example: "In the future when your companies are as closely deployed to one another as they were today, you should distribute all of the ammo at once, rather than dole it out over the course of the battle."

II. Form

A. Question: Any utterance which served to request information concerning battle performance, rationale for performance, battle objectives, or future performance. Example: "S2, did Alpha Company report to you their sighting of the enemy?"

B. Comment: Any utterance which functioned to give information related to battle performance, rationale for performance, battle objectives, or future performance. Example: "Sir, we accomplished our mission at 1400 hours."

III. Level of Specificity

A. Abstract References: Any utterance that referred to general or abstract concerns with battle performance, rationale for performance, battle objectives, or future performance, but did not include concrete instances or examples that occurred during the simulation exercise. In addition, all perfunctory responses such as "Yes," "No," "I agree," etc., were coded as abstract. Example: "Our coordination was poor."

B. Specific References: Any utterance that utilized concrete instances or examples that occurred during the simulation exercise such as: (1) a specific reference to a battle position, (2) a specific reference to a battle event, (3) a specific behavior or time was referenced, (4) an explicit hypothetical example was used. Example: "The coordination of information between the S2 and S3 was poor after the start of the battle. For example, half an hour into the battle, the S2 gathered information concerning X and failed to pass it immediately to the S3."

IV. Valance

A. Positive: Any utterance that explicitly evaluated personnel for good performance through praise. Example: "I thought you made a good decision to call for resupply at 2100. By doing that, you did not run out of ammo."

B. Negative: Any utterance that explicitly evaluated personnel for poor performance through blame. Example: "This was a bad decision you made and it cost us quite a few casualties. What was the matter with you, anyway?"

C. Mixed: Any utterance which evaluated personnel positively and negatively or positively and neutrally, or negatively and neutrally simultaneously. Example: "You are getting better at coordinating your information. Can you do better?"

D. Neutral: Any utterance which neither praised nor blamed personnel for performance, but simply described behavioral or mental (e.g., decision-making activities. Example: "At 1100 hours you saw the enemy approaching from the woods, correct?"

This category scheme yielded ninety-six different categorical choices based on the number of different decisions concerning each utterance.

Group Code: _____ Coder: _____ Last Utterance Coded: _____ Time: _____

FEEDBACK C.	MESSAGE REFERENCE	FORM	LEVEL	VALENCE	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 TOTALS
I. Battle Performance	Behavioral	Ques.	Abstract	Positive	
				Neutral	
				Negative	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
		Comment	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
	Personal	Ques.	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
		Comment	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	

FEEDBACK C.	MESSAGE REFERENCE	FORM	LEVEL	VALENCE	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 TOTALS
II. Rationale for Performance		Ques.	Abstract	Positive	
				Neutral	
				Negative	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
		Comment	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	

FEEDBACK C.	MESSAGE REFERENCE	FORM	LEVEL	VALENCE	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 TOTALS
III. Battle Objectives	Individual	Ques.	Abstract	Positive	
				Neutral	
				Negative	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
		Comment	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
	Relational	Ques.	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
		Comment	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	

FEEDBACK C.	MESSAGE REFERENCE	FORM	LEVEL	VALENCE	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 TOTALS
IV. Reference to Future Performance		Ques.	Abstract	Positive	
				Neutral	
				Negative	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	
		Comment	Abstract	Pos.	
				Neu.	
				Neg.	
				Mixed	
			Specific	Pos.	
				Neu.	
				Neg.	
				Mixed	

		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 TOTALS
V. Real Time	R. Time	
VI. Garble	Garble	

APPENDIX B

SUMMARY OF A VIDEOTAPE TRANSCRIPT ON AFTER ACTION REVIEWS

Presenter: by Cal Downs

The most important element in AARs, as in all communication, is feedback.

The five major elements of good feedback messages are as follows:

1. Description - The description element tells exactly what happened and how it happened.
2. Rationale - The rationale tells why it happened.
3. Evaluation - The evaluation element judges whether the action was good or bad.
4. Goals - The evaluation should be related to group and/or individual goals.
5. Corrective Action - This element identifies ways in which performance might be improved in the future.

Introduction

The AAR introduction takes place when the team first gets together for the AAR. The three key elements which should occur during the introduction are:

1. Review the learning agenda for the exercise.
2. Set the climate for the AAR to secure maximum participation. Ideally, the climate should be structured but not intimidating.
3. Set the expectancy in regards to roles that people are to play in conducting the AAR.

Summary of Film Excerpt No. 1

The AAR leader in this excerpt set a climate conducive to participation by displaying a relaxed manner himself, and by acknowledging hardware problems with the computer and complimenting the group's patience.

The learning agenda was not reviewed, but the expectancy was set by telling the group exactly what was expected in regards to who would talk, when they would talk and what they would talk about. Specifically, the instructions and procedures explained were:

The Company Commanders will speak first, and should tell how they fought the battle in their sector, what were the key events and how did they end up in regards to combat power at the close of the exercise.
The S2 will then tell what he heard based on the Company Commander's reports.
The S3 will report the same sort of thing as the S2 based on his mission and how he organized the ground to accomplish the mission.

The Air Defense/Fire Support Officer will report the same sort of thing bringing out his own part.
The Enemy Commander (who is still alive) will brief on how he attacked through the sector.

Summary of Film Excerpt No. 2

The AAR leader explained that the focus will be on evaluating the exercise, not individual critiques. However, performance of individual roles on division or brigade staff will be included in the evaluation.

The atmosphere of this AAR was stiff and not conducive to participation. However, the AAR leader did review the learning objectives and explained the procedures in a general way. Instructions were given to participants to brief on what the critical events were, what happened, how it happened, and alternatives to make it better next time.

Topics

A wide variety of topics are discussed in AARs, but the six most common topics are:

1. Coordination of the battle
2. Information dissemination and use
3. Enemy characteristics
4. Planning
5. Troop deployment and terrain
6. Fire Support

Participation

Participation is heavily related to the atmosphere that is created during the introduction. The AAR leader should make an effort to draw in and include people who seem reluctant to participate. The following suggestions can help create an atmosphere conducive to maximum participation:

1. Feedback regarding the group performance should be given, as well as individual feedback.
2. People should be made to feel that it is permissible to disagree.
3. The focus should be on rationale through frequent use of "why" questions.
4. Questioning techniques should be used that promote discussion and interaction and which relate people and their performance to one another.

Summary of Film Excerpt No. 3

The AAR leader asked questions that he did not want or expect an answer to, but which were asked to "give the person something to think about".

The AAR leader asked the staff to discuss their parts and to "make each other smart". A better method would have been to describe behaviors and then ask for possible alternatives.

Summary of Film Excerpt No. 4

The AAR leader asked direct and closed questions leading to simple "yes" or "no" answers. He then usually gave the reason why he asked the question, and a critique which would lead to another direct question.

This method of questioning raises the issue of how possible it is for the group to disagree, and, therefore, limits participation.

Summary of Film Excerpt No. 5

The AAR leader asked direct questions, but they were questions which related one person's performance to another. He encouraged people to direct questions to each other rather than through the AAR leader. Once the individuals began direct communications, the AAR leader performed as moderator, and kept the discussion going through further questions. The group was led to make important points for themselves, rather than the AAR leader making the points himself. This AAR leader often used "why" questions which focused on rationale.

Description

Descriptive communication should have the following elements:

1. Be specific - abstractions should be avoided. Statements such as "I didn't get a good feel for...." or "We didn't have our timing down" should be replaced with more specific statements.
2. Be thorough - avoid the inclination to "make a long story short".
3. Focus on behaviors.
4. Refer to goals and how successfully they were met.

Summary of Film Excerpt No. 6

This film excerpt consisted primarily of the speaker giving lengthy and detailed descriptions of locations and behaviors. The speaker used the phrase "I didn't get a good feel for....".

Summary of Film Excerpt No. 7

The speaker in this excerpt was not thorough or concrete. He used the following phrases:

"We didn't have our timing down and that's why...."
"We were a little more successful...."
"To make a long story short...."

Summary of Film Excerpt No. 8

The speaker in this excerpt was both thorough and concrete. He began by stating his objective - to identify the enemy mission and delay the enemy's progress. He identified the enemy by specific unit, and gave a detailed behavioral description of activities, terrain points for defense by terrain location and physical description and visibility. He stated his concept of his operation and how he attempted to do it, his exact battle positions, and the air support which was available. He described reports which came to him and what he did as a result (where the enemy was coming from and existing conditions). He also described exactly what happened when the enemy was engaged and gave specific information about losses and further courses of action. This speaker constantly referred to goals and gave an implied evaluation of how well the goals were achieved.

Evaluation

The evaluation should refer to what went right and what went wrong for both the group and the individuals. Evaluation can be positive, negative or neutral. Most AARs tend to be either neutral or the participants are unaware of any evaluation at all.

Summary of Film Excerpt No. 9

This speaker gave abundant numerical information about losses and what he had left after the battle, however, there was no analysis or evaluation which was related to goals.

Summary of Film Excerpt No. 10

This speaker said that he "missed the implied mission" and talked about what they did and why it was ineffective. He asked for comments from the division and brigade staff members. Suggestions were made on how the deficient behaviors could have been done better and further failures were pointed out. This excerpt was an example of a negative evaluation. Positive evaluation is needed as well.

Summary of Film Excerpt No. 11

This speaker talked of the exercise objective of the team (as opposed to the training objectives). The AAR leader used questioning techniques to lead the group to self-analysis of the team and an evaluation of the goals.

Goals

Goals are closely related to the evaluation, as the goals are usually the criteria used for determining success or failure in the evaluation.

There should be an analysis of the successes and the failures - why did they occur and what are some possible future alternatives in regards to the failures.

Conclusion

The conclusion is the time to summarize the exercise - to bring it all together and highlight the main points. During this time the learning objectives and goals should be combined with evaluation. This is a very important time when generalizations can be made and learning reinforced. The conclusion should include both the battle objectives and the learning objectives.

Summary of Film Excerpt No. 12

The AAR leader summarized the exercise and stated his feelings in regard to the team's performance during the exercise. He reviewed the mission and spoke of the lack of specificity of certain parts, i.e., "To return healthy" which was never operationally defined. He said because of the lack of specifics he was not sure how well he did, but that they had weakened the enemy and caused him to commit his second echelon of the lead division. However, he felt that they probably had not weakened the enemy enough, and went on to speak of difficulties encountered.

Summary of Film Excerpt No. 13

The AAR leader in this film dealt with the learning objectives. He spoke about one of their identified training needs: "to train as a team before they need to perform high speed things as a team". He said that the exercise as a whole made the staff better at analyzing problems and problem solving procedures. He felt that the team started slow but that their performance improved. The evaluator was asked to rank the team on their performance on training objectives from strongest to weakest.

Summary

The seven components of an effective AAR are:

1. Introduction - The introduction is very important and should set the climate to secure maximum participation, and set the expectancy in regards to the roles individuals are to play in conducting the AAR.

2. Topics - Many topics could be included in the AAR but there are six which most frequently occur.

3. Participation - Participation is extremely important and can be enhanced through the use of questioning techniques. In the research conducted by University of Kansas it was noted that very few AAR leaders used questioning techniques, but those who did were very effective in securing participation.

4. Description - Description is very important and should be thorough, factual, and oriented towards behaviors.

5. Evaluation - Description is not enough. Evaluation is also needed to determine if performance was good or bad based upon the goals.

6. **Goals** - Goals and evaluation should be tied together. The goals are usually the criteria for determining success or failure.

7. **Conclusion** - The conclusion should bring the main points of the AAR together to reinforce training.